6. Create a package CIE which has two classes - Personal and Internals. The class Personal has members like usn, name, sem. The class Internals has an array that stores the internal marks scored in five courses of the current semester of the student. Create another package SEE which has the class External which is a derived class of Personal. This class has an array that stores the SEE marks scored in five courses of the current semester of the student. Import the two packages in a file that declares the final marks of n students in all five courses.

Internals.java

File Edit View

```
package cie;
import java.util.Scanner;



public class Internals
{
        Scanner sc = new Scanner(System.in);
        public int markarray[] = new int[5];

        public void getd()
        {
                System.out.print("Enter Internal Marks out of 50 : ");
                for(int i=0;i<5;i++)
                {
                System.out.print("Enter Marks for subject "+(i+1)+" : ");
                markarray[i] = sc.nextInt();
                System.out.print("\n");
                }
        }

        public void disp()
        {
                System.out.print("Internal Marks out of 50 : ");
                for(int i=0;i<5;i++)
                {
                System.out.println("Marks for subject "+(i+1)+" : " +markarray[i]);
                System.out.print("\n");
                }

        }
}
```

Student.java

File Edit View

```
package cie;
import java.util.Scanner;



public class Student
{
        String usn;
        String name;
        int sem;
        public int finals[]= new int[5];
        public void getd()
        {
                Scanner sc = new Scanner (System.in);
                System.out.print("Enter USN:");
                usn = sc.next();
                System.out.print("Enter Name:");
                name = sc.next();
                System.out.print("Enter Sem:");
                sem = sc.nextInt();
        }

        public void disp()
        {
                System.out.println("USN:"+usn);

                System.out.println("Name:"+name);

                System.out.println("Sem:"+sem);

        }
}
```

Externals.java

File Edit View

```
package see;
import java.util.Scanner;
import cie.Student;


public class Externals extends Student
{
        Scanner sc = new Scanner(System.in);
        public int markarray[] = new int[5];
        public int finals[] = new int[5];
        public Externals()
        {
                super();
        }

        public void sgetd()
        {
                super.getd();
        }
        public void sdisp()
        {
                super.disp();
        }
        public void getd()
        {
                Scanner sc = new Scanner (System.in);
                for(int i=0;i<5;i++)
                {
                System.out.print("Enter Marks for subject "+(i+1)+" : ");
                markarray[i] = sc.nextInt();
                System.out.print("\n");
                }
        }
        public void disp()
        {
                Scanner sc = new Scanner (System.in);
                System.out.print("Total Marks out of 50 : ");
                for(int i=0;i<5;i++)
                {
```

Demo.java

File Edit View

```
import java.util.Scanner;
import cie.Student;
import cie.Internals;
import see.Externals;

class Demo
{

        static int n;
        static Internals[] in;
        static Externals[] e;


        public static void dispdetails()
        {
                for (int i = 0; i < n; i++)
                {
                        e[i].sdisp();
                        in[i].disp();
                        e[i].disp();
                }
        }

        public static void compute()
        {
                for (int i=0;i<n;i++)
                {
                        e[i]= new Externals();
                        in[i]= new Internals();
                        e[i].sgetd();
                        in[i].getd();
                        e[i].getd();
                for (int j=0; j<5;j++)
                        {
                                e[i].finals[j]=e[i].markarray[j]+in[i].markarray[j];
                        }
                }
        }
        public static void main(String args[])
        {

        Scanner sc = new Scanner(System.in);
        System.out.println("Enter no of students: ");
        n=sc.nextInt();
        in = new Internals[n];
        e = new Externals[n];
        compute();
        System.out.println("Displaying all Student details: ");
        dispdetails();


        }

}
```

```
Enter no of students:
2
Enter USN:1
Enter Name:a
Enter Sem:1
Enter Internal Marks out of 50 : Enter Marks for subject 1 : 35

Enter Marks for subject 2 : 36

Enter Marks for subject 3 : 37

Enter Marks for subject 4 : 38

Enter Marks for subject 5 : 39

Enter Marks for subject 1 : 41

Enter Marks for subject 2 : 42

Enter Marks for subject 3 : 43

Enter Marks for subject 4 : 44

Enter Marks for subject 5 : 45

Enter USN:2
Enter Name:b
Enter Sem:2
Enter Internal Marks out of 50 : Enter Marks for subject 1 : 27

Enter Marks for subject 2 : 28

Enter Marks for subject 3 : 29

Enter Marks for subject 4 : 30

Enter Marks for subject 5 : 31

Enter Marks for subject 1 : 32

Enter Marks for subject 2 : 33
```

```
Enter Marks for subject 3 : 34

Enter Marks for subject 4 : 35

Enter Marks for subject 5 : 36

Displaying all Student details:
USN:1
Name:a
Sem:1
Internal Marks out of 50 : Marks for subject 1 : 35

Marks for subject 2 : 36

Marks for subject 3 : 37

Marks for subject 4 : 38

Marks for subject 5 : 39

Total Marks out of 50 : Marks for subject 1 : 76

Marks for subject 2 : 78

Marks for subject 3 : 80

Marks for subject 4 : 82

Marks for subject 5 : 84

USN:2
Name:b
Sem:2
Internal Marks out of 50 : Marks for subject 1 : 27

Marks for subject 2 : 28

Marks for subject 3 : 29

Marks for subject 4 : 30
```

```
Marks for subject 5 : 31

Total Marks out of 50 : Marks for subject 1 : 59

Marks for subject 2 : 61

Marks for subject 3 : 63

Marks for subject 4 : 65

Marks for subject 5 : 67


C:\Users\sammj\OneDrive\Desktop\JAVA LAB\lab 6>
```

6) Create a package CIE which has two classes - ~~Personal~~ Student, and Internals. The class Personal has members like usn, name, sem. The class Internals has an array that stores the ~~in~~ internal marks scored in five courses of the current semester of the student. Create another package SEE which has the class External which is a derived class of Personal. This class has an array that stores SEE marks scored in five courses of the current semester of the student. Import the two packages in a file that declares the final marks of a students in all five courses

Internals.java

```
package cie;
import java.util.Scanner;

public class Internals
{
  int markarray[] = new int[5];
  public void getd()
  {
     System.out.print("Enter Internal Marks out of 50:");
     for(int i=0; i<5; i++)
     {
        System.out.println("Enter marks for subject"+(i+1)+":");
        markarray[i] = sc.nextInt()
     }
  }
  public void disp()
  {  System.out.print("Internal marks out of 50:");
     for(int i=0; i<5; i++)
     {
        System.out.println("Marks for subject "+(i+1)+":"+
        markarray[i]);
```

```
        System.out.println("\n");
    }
  }
}
```

Student.java :

```
package cie;
import java.util.Scanner;

public class Student
{
    String usn;
    String name;
    int sem;
    int marks[] = new int[5];
    public void getd()
    {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter USN: ");
        usn = sc.next();
        System.out.print("Enter Name: ");
        name = sc.next();
        System.out.print("Enter sem: ");
        sem = sc.nextInt();
    }
    public void disp()
    {
        System.out.println("USN:" + usn);
        System.out.println("Name:" + name);
        System.out.println("sem:" + sem);
    }
}
```

Externals.java

```
package see;
import java.util.Scanner;
import cie.student;

public class Externals extends Student
{
    int markarray[] = new int[5];
    public Externals()
    {
        super();
    }
    public void getd()
    {
        super.getd()
    }
    public void sdisp()
    {  super.disp();}

    public void getd()
    {
        Scanner sc = new Scanner(System.in);
        for(int i=0; i<5; i++)
        {
            System.out.print("Enter marks for subject "
                              +(i+1)+" : ");
            markarray[i] = sc.nextInt();
            System.out.print("\n");
        }
    }
    public void diff()
    {  for(int i=0; i<5; i++)
            System.out.println("Marks for subject "+(i+1)+" "+marks[i]);
    }
```

```
public void disp()
 {
    Scanner sc = new Scanner (System.in);
    System.out.print(" Enternal marks out of 50 : ");
    for (int i=0; i<5; i++)
    {
        System.out.println (" Marks for subject "+(i+1)+" : "
                            marksarray[i]);
        System.out.print("\n");
    }
 }
}
```

Demo.java

```
import java.util.Scanner;
import cie.Student;
import cie.Enternals;
import see.Enternals;

class Demo
{   static int n
    static Enternals in[] = new Enternals[n]
    static Enternals e[] = new Enternals[n];

    public static void dispdetails ()
    { for (int i=0; i<n; i++)
        { e[i].sdisp();
          ~~en[i].disp();~~
          e[i].disp();
        }
    }
```

```
public static void compute()
{
    for(int i=0; i<n; i++)
    {
        e[i] = new External();
        in[i] = new Internals();
        e[i].sgetd();
        in[i].getd();
        e[i].getd();
        for(int j=0; j<5; j++)
        {
            e[i].finals[j] = e[i].markarray[j] +
                             in[i].markarray[j];
        }
    }
}
public static void main(String args)
{
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter no of students: ");
    n = sc.nextInt();
    compute();
    System.out.println("Displaying all Student details:");
    disp details();
}
}
```

Output:

Enter Number of Students:

2

Enter USN: 1

Enter Name: a

Enter Sem: 1

Enter Internal Marks out of 50: Enter marks for subject 1: 3

PAGE :
DATE : / /

1. ~~Write a program that demonstrates handling of exceptions~~

Enter marks for subject 2 : 36
Enter marks for subject 3 : 37
Enter marks for subject 4 : 38
Enter marks for subject 5 : 39
Enter Internal Marks out of 50: Enter marks for subject 1 : 41
Enter marks for subject 2 : 42
Enter marks for subject 3 : 43
Enter marks for subject 4 : 44
Enter marks for subject 5 : 45

Enter USN : 2
Enter Name : B
Enter Sem : 2
Enter Internal Marks out of 50 : Enter marks for subject 1 : 27
Enter marks for subject 2 : 28
Enter marks for subject 3 : 29
Enter marks for subject 4 : ~~35~~30
Enter marks for subject 5 : ~~34~~31
Enter Internal Marks out of 50 : Enter marks of subject 1 : 32
~~Displaying all Stu~~ 2 : 33
3 : 34
4 : 35
5 : 36

Displaying all student details :
USN : 1
Name : a
Sem : 1
Marks for subject 1 : 76
2 : 79
3 : 80
4 : 83
5 : 83

PAGE :
DATE : / /

USN : 2
Name : b
Sem : 2

~~Subject Marks out~~
Marks for subject 1 : 64
Mark for subject 2 : 61
3 : 63
4 : 65
5 : 67

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